

REMARKS

The Office Action dated December 3, 2007 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1, 3, 4, 6, 7, and 9 stand rejected. Claims 2, 5, and 8 stand objected to. Claims 10-20 are newly added. No additional fee is due for newly added Claims 10-20.

The rejection of Claims 1, 3, 4, 6, 7, and 9 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,850,596 to Sundermann, et al. (hereinafter referred to as “Sundermann”) is respectfully traversed.

Sundermann describes a collimation device (1) that includes a casing (2) having an inlet (3), an outlet (4), and a plurality of moving plates (5-12) that are opaque to X-rays. The moving plates (5-12) define a collimation of an X-ray beam (13) emitted from a focus (15) positioned in an X-ray tube. Notably, Sundermann does not describe or suggest a collimator that includes a pair of first plate members and a pair of second plate members, wherein each second plate member is connected to a respective first plate member using a hinge, and wherein each second plate member is supported on each of a first end and an opposite second end such that each second plate is movable obliquely with respect to a respective first plate when the respective first plate is moved.

Applicant respectfully submits that the Section 102 rejection of the presently pending claims is not a proper rejection. The Examiner has not identified in Sundermann both a pair of first plate members and a pair of second plate members that are connected to the pair of first plate members. Rather, the Examiner has merely asserted that the plurality of moving plates described by Sundermann teach the elements recited in the currently pending claims. The Federal Circuit has opined that to anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F2.d 137, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). Also, missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. See Structural

Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 USPQ 1264, 1271 (Fed. Cir. 1984).

Claim 1 recites a collimator including “a pair of first plate members, each first plate member having X-ray absorbability and movable in a direction parallel to an end surface thereof, each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a space between the inner surfaces of the first plate members; and a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member.”

Sundermann does not describe or suggest a collimator, as recited in Claim 1. More specifically, Sundermann does not describe or suggest a collimator that includes a pair of first plate members and a pair of second plate members, wherein each second plate member is connected to a respective first plate member using a hinge, and wherein each second plate member is supported on each of a first end and an opposite second end such that each second plate is movable obliquely with respect to a respective first plate when the respective first plate is moved. Rather, Sundermann merely describes a collimation device that includes a plurality of moving plates that define a collimation of an X-ray beam emitted from a focus positioned in an X-ray tube.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Sundermann.

Claim 3 depends from independent Claim 1. When the recitations of Claim 3 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claim 3 likewise is patentable over Sundermann.

Claim 4 recites an X-ray irradiator including “an X-ray tube; and a collimator for collimating X-rays generated from the X-ray tube, the collimator comprising: a pair of first plate members, each first plate member having X-ray absorbability and movable in a direction parallel to an end surface thereof, each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a space between the inner surfaces of the first plate members; and a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member.”

Sundermann does not describe or suggest an X-ray irradiator, as recited in Claim 4. More specifically, Sundermann does not describe or suggest an X-ray irradiator having a collimator that includes a pair of first plate members and a pair of second plate members, wherein each second plate member is connected to a respective first plate member using a hinge, and wherein each second plate member is supported on each of a first end and an opposite second end such that each second plate is movable obliquely with respect to a respective first plate when the respective first plate is moved. Rather, Sundermann merely describes a collimation device that includes a plurality of moving plates that define a collimation of an X-ray beam emitted from a focus positioned in an X-ray tube.

Accordingly, for at least the reasons set forth above, Claim 4 is submitted to be patentable over Sundermann.

Claim 6 depends from independent Claim 4. When the recitations of Claim 6 are considered in combination with the recitations of Claim 4, Applicant submits that dependent Claim 6 likewise is patentable over Sundermann.

Claim 7 recites an X-ray apparatus including “an X-ray tube; a collimator for collimating X-rays emitted from the X-ray tube and applying the collimated X-ray to an object to be radiographed, the collimator comprising: a pair of first plate members, each first plate member having X-ray absorbability and movable in a direction parallel to an end surface thereof, each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a space between the inner surfaces of the first plate members; and a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member; the X-ray apparatus further comprising a detector device for detecting X-rays that pass through the object to be radiographed.”

Sundermann does not describe or suggest an X-ray apparatus, as recited in Claim 7. More specifically, Sundermann does not describe or suggest an X-ray apparatus having a collimator that includes a pair of first plate members and a pair of second plate members, wherein each second plate member is connected to a respective first plate member using a hinge, and wherein each second plate member is supported on each of a first end and an opposite second end such that each second plate is movable obliquely with respect to a respective first plate when the respective first plate is moved. Rather, Sundermann merely describes a collimation device that includes a plurality of moving plates that define a collimation of an X-ray beam emitted from a focus positioned in an X-ray tube.

Accordingly, for at least the reasons set forth above, Claim 7 is submitted to be patentable over Sundermann.

Claim 9 depends from independent Claim 7. When the recitations of Claim 9 are considered in combination with the recitations of Claim 7, Applicant submits that dependent Claim 9 likewise is patentable over Sundermann.

For at least the reasons set forth above, Applicant respectfully requests that the Section 102 rejection of Claims 1, 3, 4, 6, 7, and 9 be withdrawn.

Claims 2, 5, and 8 were objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 depends from Claim 1, which Applicant submits is in condition for allowance. When the recitations of Claim 2 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claim 2 likewise is in condition for allowance.

Claim 5 depends from Claim 4, which Applicant submits is in condition for allowance. When the recitations of Claim 5 are considered in combination with the recitations of Claim 4, Applicant submits that dependent Claim 5 likewise is in condition for allowance.

Claim 8 depends from Claim 7, which Applicant submits is in condition for allowance. When the recitations of Claim 8 are considered in combination with the recitations of Claim 7, Applicant submits that dependent Claim 8 likewise is in condition for allowance.

Newly added Claims 10-13 depend from independent Claim 1. When the recitations of Claims 10-13 are considered in combination with the recitations of Claim 1, Applicant submits that Claims 10-13 likewise are patentable over the cited art.

Newly added Claims 14-17 depend from independent Claim 4. When the recitations of Claims 14-17 are considered in combination with the recitations of Claim 4, Applicant submits that Claims 14-17 likewise are patentable over the cited art.

Newly added Claims 18-20 depend from independent Claim 7. When the recitations of Claims 18-20 are considered in combination with the recitations of Claim 7, Applicant submits that Claims 18-20 likewise are patentable over the cited art.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,

Eric T. Krischke
Eric T. Krischke
Registration No. 42,769
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070